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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,240	11/13/2000	Risto Aalto	875.0001USU	9698
29683	7590	12/15/2003	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			PAN, YUWEN	
			ART UNIT	PAPER NUMBER
			2682	9
DATE MAILED: 12/15/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/622,240

Applicant(s)

AALTO ET AL.

Examiner

Yuwen Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed 9/22/03 have been fully considered but they are not persuasive.

Before getting into the detail of response to arguments, the examiner would like to briefly summarize the claimed invention of the applicant. The applicant claims a method and a system of controlling the transmission power in a cellular radio system. There are at least five elements within the cellular radio system, two radio network controllers (RNC) in which one is defined as a serving one, the other defined as a drifting one, two base stations wherein only one of the base station directly communicates and connects with only one of the radio network controller, a mobile station in which in a moment communicate with both base stations as disclosed in applicant's drawing, figure 2. In order to control the transmission power between the mobile station and either one of the base stations or both, the drifting RNC transfers its transferring information, limiting the transmission power, to the serving RNC, the serving RNC transfers controlling information in which controls the transmission power to the drifting RNC. Such information then passes to the base station that is under the control of the drifting RNC to control the transmission power between the base station and the mobile station.

The applicant argues that the asserted combination of Wallentin, Nakamura and Rahman fails to render the claimed invention. The examiner disagrees because Wallentin teaches an infrastructure of a cellular radio system that retains all the elements in which disclosed above (see figure 1A). Furthermore, with no doubt, even that Wallention doesn't mention hand off, it is clear that Wallention's art is for the purpose of hand off because wallention discloses that a mobile station is moving from one area to the other. Rahman discloses a monitoring system in

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which monitor the capacity within a RNC. Combination of Rahman and Wallentin would be better to serve the purpose of hand off and liability of the system because for instance, while the serving RNC is reaching the capacity limit, it can easily find an adjacent RNC with less loaded and hand over some mobile station to the less loaded one. Since Rahman further discloses a soft hand off is associated with the load capacity monitor determination (see column 3 and lines 45-48), it is a good motivation to combine Nakamura with Wallentin such that in general a soft hand off is better than regular handoff, the hard hand off because during the soft hand off, the mobile station can simultaneously communicate with at least two base stations without dropping a connection initially. And Nakamura fully discloses the three steps as recited by the applicant in the remark (see column 5 and line 14-30). Even though, the control information exchange between two base stations, as mentioned in Nakamura's reference. By the teaching of Wallentin, those two base stations could be under control of two different RNCs as disclosed above. Such that, the information exchanging must be processed in the RNC layer.

Furthermore, it is inherent to have an out loop control and a closed loop control for transmission power control as mentioned by Wallentin. Both concepts are the fundamental methods to determine the channel power and whether it is necessary to increase/decrease power output or hand off.

Therefore, the combination of aforementioned reference is proper and the rejection stands. See below for further detail rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 103

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Wallentin et al (US006230013B1) in view of Nakamura et al (US005878350A) and Rahman (US006078817A).

With respect to claim 1,7-9, Wallentin discloses a cellular system comprising: terminal (see figure 1A and item MS), base station (see figure 1A and item 26), and radio network controllers (see figure 1A and item 22), a radio network controller provides a base station with transmission power controlling information (see figure 1A and item 28), a macro diversity connection is established where a given branch goes between the serving radio network control and the terminal through the drift radio network controller and the drift base station (see column 3 and lines 33-48).

Wallentin et al doesn't disclose a method of controlling the transmission power in a cellular radio system comprising: call control, load control, wherein a radio network controller monitors and balances the use of radio resources in the base stations that operate under it, and transmitting information limiting the transmission power in said macrodiveristy connection branch from the drift radio network controller to the serving radio network controller, transmitting information controlling the transmission power of said macro diversity connection branch from the serving radio network controller the drift radio network controller.

Rahman discloses a radio network controller monitors and balances the use of radio resources in the base stations that operate under it (see column 3 and lines 14-60).

It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching Rahman with Wallentin's method such that base station's limited radio resource would not be overloaded by macro diversity mode.

Nakamura et al discloses a method for controlling transmission powers during a soft handover in a CDMA mobile communication comprising a combining station in which provide the generated transmission power control information that is based on the received power control interval from either base station to one of the base station during soft handover (see column 5 and lines 13-column 6 and lines 15).

It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Nakamura with Wallentin's method such that base stations' status of power output are combined/exchanged through radio network controllers and the receiving qualities of the respective radio channels become equal to a determined reference quality (see column 5 and lines 13-18).

With respect to claim 2, Wallentin et al further discloses a special data transmission form line is established between two radio network controllers, is used whereupon the transformation into a data transmission form between a radio network controller and a base station takes place in the radio network controller (see figure 2 and column 5 and line 23-column 6 and line 38).

With respect to claim 3-5, 10, Nakamura et al further discloses in macro diversity connection branch both MS and BS would carry out the transmission power control at a prescribed transmission power interval (see column 5 and line 23-column 6 and line 15).

With respect to claim 6, Wallentin discloses a cellular system comprising: terminal (see figure 1A and item MS), base station (see figure 1A and item 26), and radio network controllers

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(see figure 1A and item 22), a radio network controller provides a base station with transmission power controlling information (see figure 1A and item 28), a macro diversity connection is established where a given branch goes between the serving radio network control and the terminal through the drift radio network controller and the drift base station (see column 3 and lines 33-48).

Wallentin doesn't disclose:

Means for establishing information, according to outer-loop control, controlling the transmission power and for transmitting it to a base station;

Means for controlling the load by monitoring and balancing the use of radio resources in the base stations which operate under it, characterized in that to control the transmission power in a macro diversity connection, a given branch of which goes between a radio network controller and a terminal through a drift radio network controller and a drift base station, it comprises

Means for establishing information resulting from load control and limiting the transmission power in said macro diversity connection branch and for transmitting it from the drift radio network controller to the serving radio network controller,

Means for establishing information controlling the transmission power in said macro diversity connection branch and for transmitting it from the serving radio network controller to the drift radio network controller, and

Means for establishing information controlling the transmission power of the drift base station on the basis of the information received from the serving radio network controller and for transmitting it to the drift base station.

Rahman discloses a radio network controller monitors and balances the use of radio resources in the base stations that operate under it (see column 3 and lines 14-60).

It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching Rahman with Wallentin's method such that base station's limited radio resource would not be overloaded by macro diversity mode.

Nakamura et al discloses establishing information, according to outer-loop control, controlling the transmission power and for transmitting it to a base station (see figure 2);

a combining station in which provide the generated transmission power control information that is based on the received power control interval from either base station to one of the base station during soft handover (see column 5 and lines 13-column 6 and lines 15).

It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Nakamura with Wallentin's method such that base stations' status of power output are combined/exchanged through radio network controllers with the functions of combining station and the receiving qualities of the respective radio channels become equal to a determined reference quality (see column 5 and lines 13-18).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after


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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 703-305-7372. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Yuwen Pan
December 2, 2003


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
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12/12/03